

ON THE WAY DOWN

Potential interference of microplastics with the biological carbon pump

Microplastic pollution may...

Shallow ocean

CO₂

CO₂

CO₂

- 1 CO₂ (carbon dioxide) is dissolved at the ocean's surface
- 2 Phytoplankton absorb CO₂ and fix the carbon through photosynthesis
- 3 Zooplankton eat phytoplankton
- 4 Fecal pellets and dead plankton sink



Phytoplankton

Carbon

Zooplankton



Microplastic

... reduce phytoplankton's ability to fix carbon through photosynthesis

... reduce zooplankton's ability to transport carbon by impairing feeding, survival, or reproductive success.

Deep ocean

Carbon

- 5 Carbon sequestered in deep ocean for decades to millennia

Sediment